

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-27 (Canceled)

28. (New) A process for preparation of a nitrophenol from a nitrohalobenzene comprising the steps of :

- (a) hydrolysis of a nitrohalobenzene compound by reaction of the said compound with a base,
- (b) acidification to obtain the nitrophenol compound from its salt, by an acid treatment,
- (c) crystallization of the nitrophenol compound obtained,
- (d) separation of the product obtained,

said process further comprising at least the following steps:

- (e) concentration of the reaction medium after hydrolysis (a) and before acidification (b), and
- (f) liquid/liquid decantation performed after acidification (b) and before crystallization (c) in order to remove the aqueous phase obtained after acidification (b).

29 – (New) The process according to Claim 28, comprising the steps of hydrolysis of the nitrohalobenzene compound, concentration of the reaction medium, acidification, decantation, crystallization of the nitrophenol and separation.

30 – (New) The process according to Claim 28, comprising the steps of hydrolysis of the nitrohalobenzene compound, concentration of the reaction medium, crystallization of the nitrophenate, separation, acidification, decantation, crystallization of the nitrophenol and separation.

31 – (New) The process according to Claim 28, comprising the steps of hydrolysis of the nitrohalobenzene compound, concentration of the reaction medium, optionally crystallization of the nitrophenate followed by separation thereof, acidification, decantation, washing of the organic phase, crystallization of the nitrophenol and separation.

32 – (New) The process according to Claim 28, wherein the basic hydrolysis of the nitrohalobenzene compound is performed by reacting it with an inorganic or organic base.

33 – (New) The process according to Claim 32, wherein the hydrolysis temperature lies between 100°C and 200°C.

34 – (New) The process according to Claim 28, wherein the concentration of the reaction medium is performed so as to increase the concentration of nitrophenol in the medium from 0.1% by weight to 10% by weight.

35 – (New) The process according to Claim 34, wherein the concentration is increased by decreasing the reaction pressure, by pressure release, while remaining in the aforesaid temperature zone or by distilling under atmospheric pressure at a temperature of the order of 100°C, under a pressure slightly lower than atmospheric pressure

selected so as to have a distillation temperature lying between 80°C and 99.6°C or at a pressure greater than atmospheric pressure.

36 – (New) The process according to Claim 28, wherein the acidification is performed by addition of a protonic acid of inorganic origin.

37 – (New) The process according to Claim 36, wherein the quantity of acid is at least equal to the quantity necessary for obtaining a pH lying between 1 and 7 at the end of acidification.

38 – (New) The process according to Claim 36, wherein the reaction medium is maintained at a temperature varying between 45°C and 70°.

39 – (New) The process according to Claim 28, wherein the crystallization of the nitrophenol is performed by cooling to a temperature which is a temperature lower than 40°C.

40 – (New) The process according to Claim 28, wherein the separation of the crystallized product is performed by filtration or by centrifugation.

41 – (New) The process according to Claim 28, wherein a further operation of decantation of the two liquid phases obtained is performed following the acidification, at a temperature of 60 - 70°C.

42 – (New) The process according to Claim 30, wherein the crystallization of the nitrophenate is performed at the end of the concentration operation, by cooling to an ambient temperature and that the crystallized product is separated by filtration or centrifugation.

43 – (New) The process according to Claim 29, wherein a further step of water washing of the organic phase is interposed between the decantation and the crystallization.

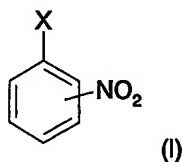
44 – (New) The process according to Claim 43, wherein the mother liquors and washings from the crystallization of the nitrophenol are recycled to the hydrolysis of the nitrohalobenzene or to the dilution of the crystallized phenate after acidification.

45 – (New) The process according to Claim 43, wherein at least part of the decantation liquors which result the acidification of the nitrophenate is recycled to the hydrolysis of the nitrohalobenzene or to the dilution of the crystallized phenate after acidification.

46 – (New) The process according to Claim 43, wherein the solid which precipitates to part of the cooled decantation liquors is recycled to the hydrolysis of the nitrohalobenzene or to the dilution of the crystallized phenate after acidification.

47 – (New) The process according to Claim 31, wherein the aqueous washings of the organic phase which decanted after acidification of the nitrophenate are recycled to the hydrolysis of the nitrohalobenzene or to the dilution of the crystallized phenate after acidification.

48 – (New) The process according to Claim 28, wherein the nitrohalobenzene corresponds to the formula:



wherein:

- X represents a fluorine, chlorine, bromine or iodine atom,

- the NO₂ group is in the ortho, meta or para position.

49 – (New) The process according to Claim 48, wherein the nitrohalobenzene corresponding to the formula (I) bears one or several other halogen atom(s) or one or several nitro group(s) or one or several alkyl group(s) having from 1 to 4 carbon atoms.

50 – (New) The process according to Claim 48, wherein the nitrohalobenzene is p-nitro-chlorobenzene.

51 – (New) A Nitrophenol having:

- a nitrohalobenzene content less than 180 ppm, and
- a halogen ions content less than 40 ppm.

52 – (New) The nitrophenol according to Claim 24, having a sulfur content lower than 200 ppm.

53 – (New) A p-Nitrophenol having:

- a p-nitrohalobenzene content less than 180 ppm, and
- a halogen ions content less than 40 ppm.

54 – (New) The p-Nitrophenol according to Claim 53, wherein it has a sulfur content preferably lower than 200 ppm, and still more preferably lower 100 ppm.